

# American Museum Novitates

---

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY  
CENTRAL PARK WEST AT 79TH STREET, NEW YORK 24, N.Y.

---

NUMBER 2195

SEPTEMBER 29, 1964

---

## New Records of Bats from Trinidad and Comments on the Status of *Molossus* *trinitatus* Goodwin

BY GEORGE G. GOODWIN<sup>1</sup> AND ARTHUR M.  
GREENHALL<sup>2</sup>

Collections of bats recently received from Trinidad in the West Indies include specimens of a genus of the Phyllostominae and a species of the Stenoderminae that are new records for the island. Two species of Trinidad bats previously known from single specimens and several other poorly represented forms have now been substantiated by adequate series. Albinistic specimens of bats from Trinidad and the relationship of *Molossus trinitatus* to its Mexican allies are commented upon.

All measurements are given in millimeters. The greatest length and the condylobasal length of the skull are to the front of the incisors. The weights are given in grams. Previously unreported material is indicated by italic type in the paragraphs on Specimens Examined. Capitalized color terms are those of Ridgeway (1912).

Abbreviations representing the names of museums and institutions from which specimens are recorded or listed in the tables are:

A.M.N.H., the American Museum of Natural History

B.M., British Museum (Natural History)

---

<sup>1</sup> Curator Emeritus, Department of Mammalogy, the American Museum of Natural History

<sup>2</sup> Chief, Mammal Section, Bird and Mammal Laboratories, Division of Wildlife Research, United States Fish and Wildlife Service, Washington, D. C.

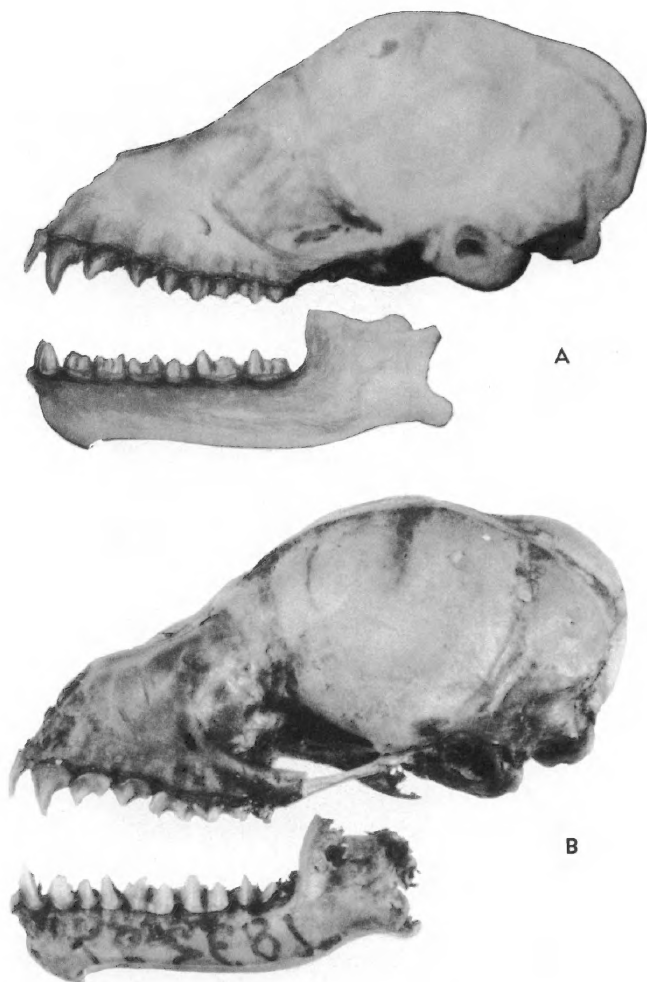


FIG. 1. Lateral views of skulls of *Micronycteris sylvestris*. A. Adult male, B.M. No. 96.10.12, type, from Costa Rica. B. Adult male, A.M.N.H. No. 183297, from Trinidad. Both  $\times 3$ .

C.N.H.M., Chicago Natural History Museum

M.C.Z., Museum of Comparative Zoölogy at Harvard College

T.R.V.L., Trinidad Regional Virus Laboratory

Acknowledgments are due to Dr. Thomas H. G. Aitken, Entomologist of the Trinidad Regional Virus Laboratory, and to Dr. Joseph C. Moore, Curator of Mammals, Chicago Natural History Museum, for the loan of specimens, and to Dr. Barbara Lawrence, Curator of Mammals,

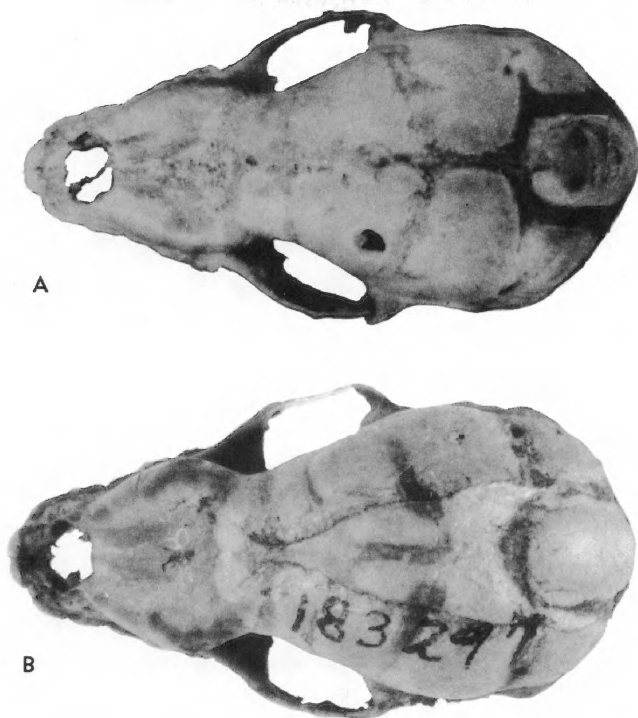


FIG. 2. Dorsal views of crania of *Micronycteris sylvestris*. A. Adult male, B.M. No. 96.10.12, type, from Costa Rica. B. Adult male, A.M.N.H. No. 183297, from Trinidad. Both  $\times 3$ .

Museum of Comparative Zoölogy at Harvard College, for measurements of the type specimen of *Ametrida minor*. The photographs of the type skull of *Micronycteris sylvestris* were made by the late Mr. Colin C. Sanborn, Curator of Mammals, Chicago Natural History Museum. The other photographs were made by Mr. Robert E. Logan, Chief Photographer, the American Museum of Natural History. The line drawings were made by Mr. Gaetano Di Palma, Scientific Illustrator, Graphic Arts Department, the American Museum of Natural History.

*Micronycteris (Glyphonycteris) sylvestris* (Thomas)

Figures 1–3

*Glyphonycteris sylvestris* THOMAS, 1896, p. 302.

SPECIMENS EXAMINED: Point Fortin, four (A.M.N.H.); *Point Fortin*, one (A.M.N.H.).

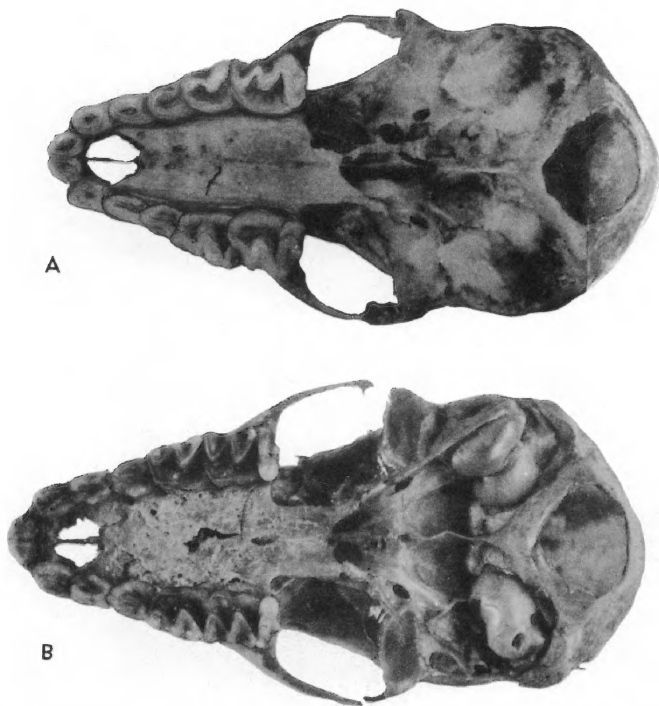


FIG. 3. Ventral views of crania of *Micronycteris sylvestris*. A. Adult male, B.M. No. 96.10.12, type, from Costa Rica. B. Adult male, A.M.N.H. No. 183297, from Trinidad. Both  $\times 3$ .

REMARKS: The new specimen has a partly divided sagittal crest forming two postorbital ridges, which extend across the parietals in a sharp-angled V, a characteristic present in other specimens examined from Trinidad, but not present in the type (figs. 1A, 2A, 3A) or in specimens examined from Mexico.

*Tonatia minuta* Goodwin

*Tonatia minuta* GOODWIN, 1942, p. 206.

SPECIMENS EXAMINED: *Chatham*, one; Guaico, four (skulls only); Irois Forest, two; *Rio Claro*, one. All are in the American Museum of Natural History.

REMARKS: The two new specimens have skulls that are broader and cheek teeth that are wider than those of specimens from Guaico and Irois Forest. These differences, however, can be attributed to the greater age of the new specimens and to individual variation.

*Mimon crenulatum crenulatum* (É. Geoffroy Saint-Hilaire)

*Phyllostoma crenulatum* É. GEOFFROY SAINT-HILAIRE, 1810, p. 183.

SPECIMENS EXAMINED: Belmont, one (A.M.N.H.); *Nariva Swamp*, two (T.R.V.L.); *Trinidad*, no exact locality, one (A.M.N.H.).

REMARKS: The four specimens of *M. c. crenulatum* now available from Trinidad show little individual variation. The dorsal surface is blackish brown, marked with more or less distinct, whitish, postauricular patches

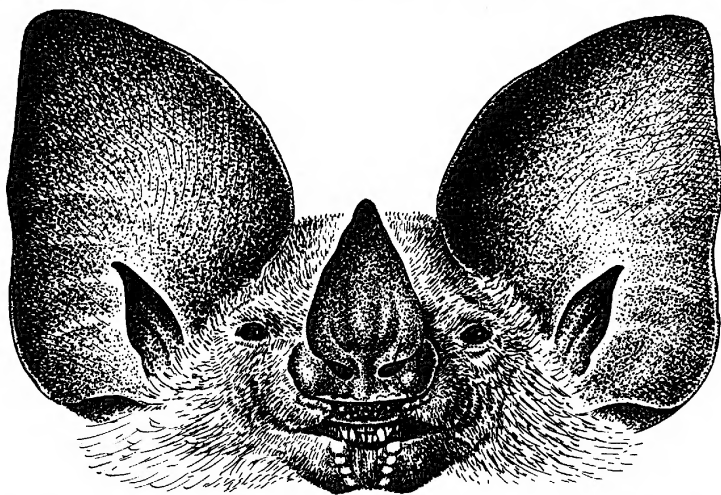


FIG. 4. Front view of head of *Phylloderma stenops*, adult female, A.M.N.H. No. 205371.  $\times 2$ .

and a narrow, indistinct, whitish, median dorsal stripe on the lower back. The under parts are blackish brown washed with Pale Pinkish Buff.

The two *Nariva Swamp* specimens were caught in a mist net in the Bush Bush Forest.

*Phylloderma stenops* Peters

Figures 4, 5

*Phylloderma stenops* PETERS, 1865, p. 513; 1866, p. 675.

*Guandira cayanaensis* GRAY, 1866, p. 114.

*Phylloderma stenops*: DOBSON, 1878, p. 483.

This genus of bat has not previously been recorded from Trinidad.

TYPE LOCALITY: Cayenne, French Guiana. The type is a dried specimen, an adult male, and is in the Rijksmuseum van Natuurlijke Historie, Leiden.

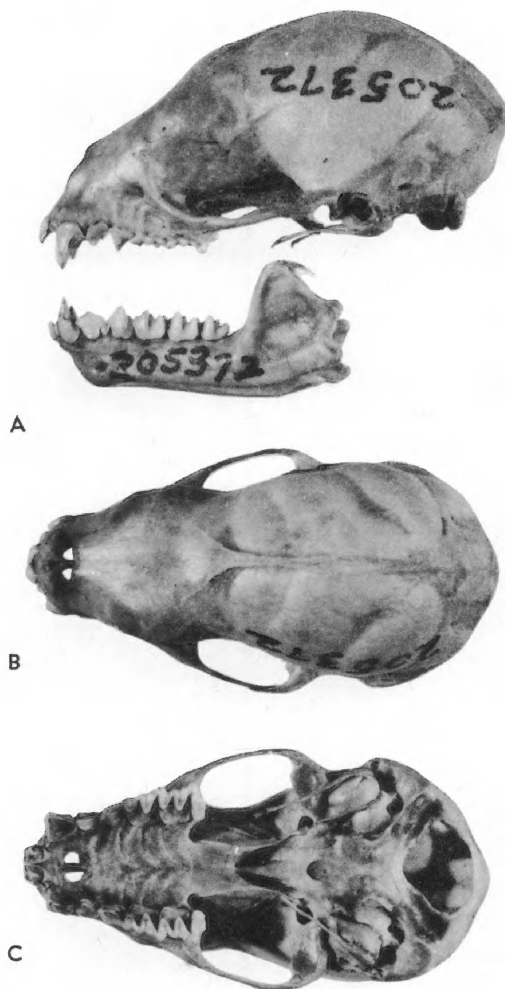


FIG. 5. Cranium of *Phylloderma stenops*, adult female, A.M.N.H. No. 205372. A. Lateral view, with jaws. B. Dorsal view. C. Ventral view. All  $\times 2$ .

RANGE: French Guiana and Trinidad.

GENERAL CHARACTERS: Length of forearm, 69 to 71; pelage short and close, limited to head and body; wing membranes attached high on lumbar region, producing a partially naked-backed appearance; ears separated, moderately large and rounded, with slight undulations on posterior half; nose leaf slender and well developed; chin with V-shaped naked pad margined by a row of elongated or rounded papillae; tragus long and narrow; muzzle abruptly narrowed in front of eyes; tail short

and emerging from upper side of a moderately wide interfemoral membrane.

**DESCRIPTION:** Color of upper parts Mummy Brown lightened by the Cinnamon-Buff tips of the hairs, extreme base of hairs buffy white; under parts Light Buff, base of hairs Drab; flying membranes blackish brown, tips of wings yellowish white. Skull robust, rostrum low, flattened, tapered from in front of orbits; braincase relatively high and rounded, sagittal crest well developed; nasal bones rising rather abruptly from nares; zygomatic arches rounded; teeth relatively small; inner upper incisors bifid, the lobes subequal; inner lower incisors nearly twice as wide as outer incisors, the cutting edge bifid; upper canines without longitudinal groove; mandibular premolar and molar tooth rows narrow; a minute  $pm_3$  wedged transversely between two functional teeth.

**DENTAL FORMULA:** Incisors, 2/2; canines, 1/1; premolars, 2/3; molars, 3/3=34.

**SPECIMENS EXAMINED:** *Arima*, two (A.M.N.H.).

**REMARKS:** These two specimens were caught in a mist net in the lower montane rain forest of the Arima Valley near the Simla Estate.

*Choeroniscus intermedius* (J. A. Allen and Chapman)

*Choeronycteris intermedia* J. A. ALLEN AND CHAPMAN, 1893, p. 207.

**SPECIMENS EXAMINED:** Irois Forest, one; *Maracas*, one; Princes Town, one; Sangre Grande, one. All are in the American Museum of Natural History.

**REMARKS:** An additional specimen of this rare species is of sufficient interest to be put on record, along with its measurements in table 1.

*Sturnira lilium lilium* (É. Geoffroy Saint-Hilaire)

*Phyllostoma lilium* É. GEOFFROY SAINT-HILAIRE, 1810, p. 181.

**SPECIMENS EXAMINED:** *Balandra*, one; Churchill-Roosevelt Highway, one; *Fillete*, three; *Maracas*, two; *Grande Riviere*, eight; *Las Cuevas*, three; *Guayaguayare*, two. All are in the American Museum of Natural History.

**REMARKS:** The length of the forearm in eight adult female specimens ranges from 40.3 to 41.2, and in 10 adult males from 42.4 to 44.0. The rusty shoulder patches vary from bright Russet to pale buffy. Some individuals show no perceptible indication of shoulder patches.

*Sturnira tildae* De la Torre

*Sturnira tildae* DE LA TORRE, 1959, p. 1.

TABLE 1  
EXTERNAL AND CRANIAL MEASUREMENTS (IN MILLIMETERS) AND WEIGHTS (IN GRAMS) OF SOME BATS FROM  
TRINIDAD AND OTHER AREAS

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condylolbasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
<i>Myronictes sylvae</i>	TRINIDAD										
A.M.N.H. No. 183297	Point Fortin	♂ ad	41.8	20.2	18.6	10.5	5.0	9.0	7.2	8.0	11.0
A.M.N.H. No. 183298	Point Fortin	♂ ad	40.0	20.3	18.9	10.3	4.4	8.8	7.0	8.2	10.1
A.M.N.H. No. 183299	Point Fortin	♂ ad	40.5	20.3	18.5	10.0	4.8	8.7	6.8	8.2	11.0
A.M.N.H. No. 183846	Point Fortin	♂ ad	40.6	21.0	18.7	9.9	5.1	8.6	6.8	8.1	10.7
A.M.N.H. No. 207061	Point Fortin	♂ ad	40.2	20.0	18.8	10.5	5.0	8.7	7.2	8.3	10.6
	COSTA RICA										
B.M. No. 96.10.12 <sup>a</sup>	Miravalles	♂ ad	40.5	20.2	17.1	9.9	4.6	8.4	6.8	7.9	—
	VERACRUZ, MEXICO										
U.K. No. 23645	Tlacotepec	♀ ad	42.5	20.5	18.9	9.9	4.7	8.2	6.8	8.4	—
U.K. No. 23647	Tlacotepec	♀ ad	42.2	21.0	19.0	10.4	5.0	8.7	7.0	8.4	—
<i>Tonalia minuta</i>											
A.M.N.H. No. 71619 <sup>a</sup>	PERU Boca Cutaray	♂ ad	34.5	18.7	16.9	9.2	3.0	7.5	6.1	6.9	—
	TRINIDAD										
A.M.N.H. No. 185312	Irois Forest	♂ ad	35.5	20.0	17.2	8.2	3.1	7.7	6.1	6.9	9.9
A.M.N.H. No. 185313	Irois Forest	♀ ad	35.5	19.5	17.4	9.2	3.1	8.0	5.9	7.1	9.1
A.M.N.H. No. 205370	Rio Claro	♂ ad	34.5	20.0	17.5	9.8	3.3	8.4	6.4	7.1	10.3



TABLE 1—(Continued)

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condylabasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
A.M.N.H. No. 207062	Chatham	♂ old	34.8	19.7	17.5	9.9	3.4	8.3	6.4	7.0	10.5
<i>Mimon c. crenulatum</i>											
A.M.N.H. No. 175586	TRINIDAD										
A.M.N.H. No. 207063	Port-of-Spain	♀ ad	50.3	21.2	18.6	11.5	4.4	8.0	8.2	7.8	—
T.R.V.L. No. 63-1595	Trinidad	♀ ad	49.0	21.0	18.7	11.6	4.1	7.5	8.3	7.7	13.5
T.R.V.L. No. 63-1591	Nariva Swamp	♂ ad	49.3	21.3	19.0	12.0	4.3	—	8.8	8.0	11.0
	Nariva Swamp	♂ ad	50.0	21.0	20.0	11.0	—	—	8.3	7.6	8.9
<i>Phylloderma stenops</i>											
A.M.N.H. No. 205371	TRINIDAD										
A.M.N.H. No. 205372	Arima	♀ ad	71.0	—	—	—	—	—	10.3	10.4	60.0
	Arima	♀ ad	69.5	30.1	26.7	15.0	9.0	12.8	10.0	10.2	57.0
<i>Choeroneiscus intermedius</i>											
A.M.N.H. No. 6072-4791 <sup>a</sup>	TRINIDAD										
A.M.N.H. No. 179956	Princes Town	♀ ad	34.5	22.4	21.8	8.4	3.8	8.3	4.6	7.8	—
A.M.N.H. No. 185314	Sangre Grande	♀ ad	35.2	22.7	22.0	8.2	3.5	8.2	4.6	7.9	7.8
A.M.N.H. No. 207065	Irois Forest	♂ ad	33.5	—	—	8.0	3.4	8.4	4.6	7.5	4.6
	Maracas	♀ ad	36.1	22.4	21.7	8.4	3.5	8.5	4.7	7.7	8.8
<i>Sturnira l. lilium</i>											
A.M.N.H. No. 204710	TRINIDAD										
A.M.N.H. No. 204713	Balandra	♀ ad	41.6	21.9	20.3	12.8	5.9	10.2	7.7	6.5	16.0
A.M.N.H. No. 204715	Fillette	♀ ad	42.2	22.4	20.6	13.4	6.0	10.2	7.8	6.7	—
	Grande Riviere	♂ ad	44.0	22.7	20.9	13.5	6.1	10.1	7.9	6.8	19.2

TABLE 1—(Continued)

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condyllobasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
A.M.N.H. No. 204721	Grande Riviere	♀ ad	41.2	21.1	20.2	12.0	5.7	10.1	7.8	6.5	16.2
A.M.N.H. No. 204724	Las Cuevas	♂ ad	44.0	23.0	21.0	13.4	6.2	11.0	8.0	6.9	25.0
<i>Sturnira tildae</i>											
	TRINIDAD										
A.M.N.H. No. 149625 <sup>a</sup>	Arima Valley	♂ ad	45.0	23.5	21.5	14.0	6.1	10.4	8.1	7.1	—
A.M.N.H. No. 204728	Caura	♀ ad	45.6	22.4	20.4	13.3	6.0	11.2	8.1	7.0	22.4
A.M.N.H. No. 204732	Grande Riviere	♀ ad	47.8	22.5	21.2	13.5	6.3	10.3	7.9	7.0	23.1
A.M.N.H. No. 204733	Grande Riviere	♂ ad	46.0	23.7	22.0	14.2	6.0	10.5	8.3	7.5	24.7
A.M.N.H. No. 204737	Grande Riviere	♂ ad	46.8	23.0	—	13.9	6.2	11.0	8.3	7.2	20.5
A.M.N.H. No. 204740	Grande Riviere	♀ ad	46.0	23.5	22.2	14.0	6.3	12.0	7.8	7.0	18.1
A.M.N.H. No. 204742	Grande Riviere	♀ gr	45.0	23.1	21.7	14.6	6.1	11.0	8.0	7.1	26.3
<i>Chiroderma trinitatum</i>											
	TRINIDAD										
A.M.N.H. No. 175325 <sup>a</sup>	Cumaca	♀ ad	40.5	22.5	20.4	13.7	5.6	9.6	10.3	7.7	—
A.M.N.H. No. 205373	Arima	♂ ad	39.4	22.5	20.0	13.7	5.5	9.7	10.1	7.6	15.8
A.M.N.H. No. 205374	Nariva Swamp	♂ sub	37.5	21.3	19.0	12.6	5.3	9.3	9.5	7.4	—
T.R.V.L. No. 63-1591	Nariva Swamp	♂ ad	41.5	21.5	20.0	13.5	—	—	10.4	7.7	13.4
A.M.N.H. No. 205375	Fillette	♀ ad	42.5	—	—	—	—	—	—	7.7	—
T.R.V.L. No. 63-1590	Bush Bush Forest	♂ ad	40.0	21.5	20.0	13.0	5.5	9.7	9.5	7.5	12.6
<i>Ecotophylla m. flavescens</i>											
	TRINIDAD										
A.M.N.H. No. 186433 <sup>a</sup>	Talparo	♀ ad	33.4	18.7	16.5	11.0	4.7	8.4	7.9	6.5	6.6

TABLE 1—(Continued)

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condylobasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
A.M.N.H. No. 172125	Guayaguayare	♂ ad	32.8	18.3	16.2	10.8	4.6	8.3	7.4	6.4	8.2
A.M.N.H. No. 172126	Mayaro	♀ ad	33.2	18.6	16.5	10.8	4.6	8.0	7.4	6.5	12.6
A.M.N.H. No. 187223	Las Cuevas	♀ ad	34.0	18.7	16.9	11.0	4.7	8.2	7.4	6.5	10.5
A.M.N.H. No. 207066	Las Cuevas	♂ sub	34.4	17.3	15.5	—	4.5	7.5	6.6	6.5	6.0
A.M.N.H. No. 207068	Mayaro	♀ ad	33.0	18.5	16.9	10.6	4.6	8.3	7.5	6.5	9.5
<i>Ectophylla m. macconnelli</i>											
BRITISH GUIANA											
B.M. <sup>a</sup>	Kanuka Mts.	♀ ad	30.0	17.6	—	10.0	4.5	—	—	6.1	—
A.M.N.H. No. 48269	Georgetown	♂ ad	30.0	17.5	15.2	9.9	4.3	7.8	6.9	5.9	—
A.M.N.H. No. 48270	Georgetown	♀ ad	29.5	17.5	15.7	10.0	4.3	7.6	7.2	6.0	—
A.M.N.H. No. 48272	Georgetown	♀ ad	32.3	18.0	16.2	10.2	4.5	7.8	7.1	6.1	—
<i>Ametrida centurio</i>											
TRINIDAD											
A.M.N.H. No. 172127	Gulf of Paria	♀ ad	32.2	16.0	13.5	11.3	4.3	8.8	8.0	4.8	10.2
A.M.N.H. No. 183849	Gulf of Paria	♀ juv	31.7	—	—	—	4.3	8.0	7.6	4.7	7.2
A.M.N.H. No. 187225	Maracas Valley	♀ ad	32.4	16.3	13.5	11.5	4.2	8.7	8.1	4.8	10.1
<i>Ametrida minor</i>											
TRINIDAD											
A.M.N.H. No. 187224	Las Cuevas	♂ sub	25.2	14.7	12.0	10.2	3.3	7.9	7.0	4.2	5.2
SURINAM											
M.C.Z. No. 11274 <sup>a</sup>	Paramaribo	♂ ad	24.8	14.9	12.0	10.3	3.4	8.2	7.3	4.4	—

TABLE 1—(Continued)

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condylobasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
A.M.N.H. No. 142909	BRITISH GUIANA Kartabo	♂ ad	25.0	14.5	11.9	10.3	3.3	8.3	7.2	4.3	—
A.M.N.H. No. 142612	VENEZUELA Caripito	♂ ad	25.5	14.6	12.5	10.2	3.4	8.0	7.3	4.2	—
<i>Furipterus horrens</i>											
A.M.N.H. No. 6103	TRINIDAD Princes Town	♂ ad	31.2	11.5	11.1	6.3	3.0	5.3	4.8	5.0	—
T.R.V.L. No. 63-142	Nariva Swamp	♀ sub	33.5	—	—	—	—	—	—	—	3.0
<i>Thyroptera l. tricolor</i>											
A.M.N.H. No. 29693	TRINIDAD Heights of Aripo	♂ ad	37.5	13.9	12.7	7.2	2.5	6.6	5.0	5.7	—
A.M.N.H. No. 172150	Bush Bush Forest	♀ sub	35.8	13.8	12.6	5.7	2.6	6.5	4.5	5.6	2.6
A.M.N.H. No. 183860	Port-of-Spain	♀ ad	37.2	14.3	13.2	6.9	2.5	6.9	4.5	5.7	—
A.M.N.H. No. 185342	Sangre Grande	♀ ad	24.5	13.7	12.7	6.7	2.5	6.5	4.9	5.4	—
A.M.N.H. No. 207069	Bush Bush Forest	♂ sub	34.9	13.4	12.4	6.7	2.7	6.5	4.4	5.3	2.5
<i>Molossus trinitatus</i>											
A.M.N.H. No. 179987 <sup>a</sup>	TRINIDAD Port-of-Spain	♂ ad	49.3	22.0	19.7	12.5	4.1	9.7	9.0	7.9	19.3
A.M.N.H. No. 181264	Port-of-Spain	♂ ad	50.6	—	—	—	—	—	9.0	8.0	—
A.M.N.H. No. 181298	San Fernando	♂ sub	46.9	—	—	—	—	—	8.9	7.6	16.0
A.M.N.H. No. 183847	Chaguanas	♀ sub	47.5	20.0	19.0	11.5	4.4	—	8.8	7.7	—
A.M.N.H. No. 183848	Port-of-Spain	♀ sub	48.0	20.0	18.6	12.2	4.1	9.6	8.8	7.8	24.5

TABLE 1—(Continued)

Species, Museum, and Number	Locality	Sex and Age	Forearm Length	Skull, Greatest Length	Condylbasal Length	Zygomatic Breadth	Interorbital Constriction	Braincase Breadth	Palate, Breadth across Molars	Maxillary Tooth Row	Weight
T.R.V.L. No. 63-31	Tunapuna	♂ ad	49.4	22.0	18.8	12.3	4.5	10.3	9.4	8.3	—
<i>Molossus macdougalli</i>											
A.M.N.H. No. 145150 <sup>a</sup>	OAXACA, MEXICO Tehuantepec	♀ ad	48.7	20.2	19.0	12.7	4.3	10.4	9.7	7.8	—
GUERRERO, MEXICO											
C.N.H.M. No. 73111	Acapulco	♀ ad	49.0	21.0	19.5	13.1	4.3	10.2	9.6	7.9	—
C.N.H.M. No. 73112	Acapulco	♀ ad	48.4	20.7	18.8	13.1	4.6	10.5	9.3	7.9	—
C.N.H.M. No. 73113	Acapulco	♀ ad	48.5	21.0	19.4	13.0	4.3	11.0	9.3	7.9	—
C.N.H.M. No. 73114	Acapulco	♀ ad	47.3	21.2	19.6	13.3	4.4	10.3	9.4	8.0	—
<i>Molossus sinaloae</i>											
A.M.N.H. No. 24524 <sup>a</sup>	SINALOA, MEXICO Escuinapa	♀ ad	46.5	19.5	18.0	12.0	4.0	9.7	8.8	7.2	—
NICARAGUA											
A.M.N.H. No. 41190	Rio Grande	♀ ad	47.2	19.1	17.5	11.0	3.7	9.0	8.1	7.0	—
A.M.N.H. No. 41191	Rio Grande	♀ ad	47.0	18.8	17.7	10.8	4.0	9.2	8.3	7.2	—
A.M.N.H. No. 41193	Rio Grande	♀ ad	47.0	19.6	18.0	11.3	3.8	9.0	8.1	7.4	—
A.M.N.H. No. 41194	Rio Grande	♀ ad	47.8	19.5	18.0	11.5	4.0	9.6	8.3	7.4	—

<sup>a</sup> Type.

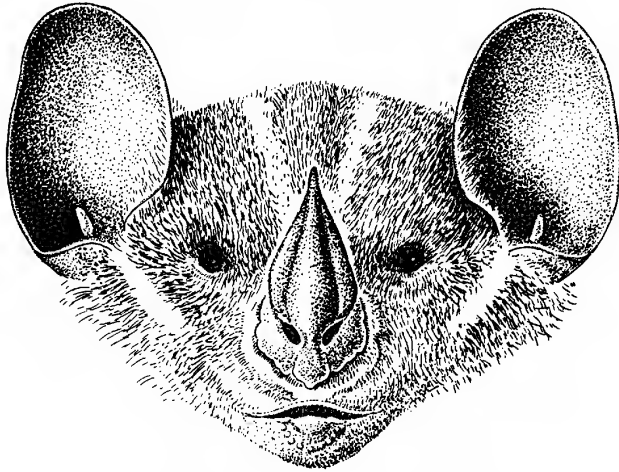


FIG. 6. Front view of head of *Chiroderma trinitatum*, subadult male, A.M.N.H. No. 205374.  $\times 2$ .

SPECIMENS EXAMINED: Arima Valley, one; *Blanchisseuse*, one; *Caura*, two; *Diego Martin*, one; *Grande Riviere*, 12; Maracas, one; Rio Claro, one. All are in the American Museum of Natural History.

REMARKS: The length of the forearm in nine adult females ranges from 45.0 to 47.8; in six adult males, from 46.0 to 47.6.

The large size and tricolored pelage of *Sturnira tildae* are characters usually sufficient to separate this species from *Sturnira lilium*. The length of the maxillary tooth row of *S. tildae*, even in immature specimens, is 7 mm. or more, while in *S. lilium* this length is less than 7 mm. All the specimens of *Sturnira* collected in Trinidad were taken in mist nets. The genus has a wide distribution on the island.

*Chiroderma trinitatum* Goodwin

Figure 6

*Chiroderma trinitatus* GOODWIN, 1958, p. 1.

SPECIMENS EXAMINED: *Arima*, one (A.M.N.H.); *Bush Bush Forest*, one (T.R.V.L.); *Cumaca*, one (A.M.N.H.); *Fillette*, one (A.M.N.H.); *Nariva Swamp*, one (A.M.N.H.), one (T.R.V.L.).

REMARKS: The original description of this bat was based on one individual that was devoid of hair, so that its color and markings were unknown. With the series that is presently available, the color, markings, and the range of individual variation can be given in detail.

DESCRIPTION: Length of forearm, 37.5 to 42.5; color of upper parts in fresh pelage Wood Brown, becoming Pale Ochraceous-Buff on head and shoulders in worn pelage; under parts slightly darker and grayer than back; a pair of broad white lines extending from base of nose leaf to between ears; a second pair of broader white lines extending from corner of mouth to base of ears; an indistinct, narrow, yellowish white, middorsal line extending from shoulders to base of interfemoral membrane; patagium mostly blackish brown; membrane between second and third metacarpal and tragus yellowish white. Cranial characters as in type description.

REMARKS: With the exception of the type, which was collected in a cave, all the specimens of *C. trinitatum* were caught in mist nets and in areas that vary from montane rain forest to swamp land.

*Ectophylla macconnelli flavescens* Goodwin and Greenhall

*Ectophylla macconnelli flavescens* GOODWIN AND GREENHALL, 1962, p. 2.

SPECIMENS EXAMINED: *Guayaguayare*, one; *Las Cuevas*, two; *Mayaro*, two; *Talpar*, one. All are in the American Museum of Natural History.

REMARKS: The description of *E. m. flavescens* was based on an individual characterized chiefly by its large size as compared with the smaller form, *E. m. macconnelli*, from British Guiana. Since the publication of the type description, five additional specimens have been taken in Trinidad, with measurements (table 1) that average even larger than those of the type specimen of *E. m. flavescens*. The two specimens from Mayaro were caught while hanging on a rope that tethered a cow. Both specimens were examined, but no virus was recovered from either.

*Ametrida centurio* Gray

Figure 7A, C, E

*Ametrida centurio* GRAY, 1847, p. 15.

SPECIMENS EXAMINED: *Gulf of Paria*, one juvenile; *Gulf of Paria*, one adult female; *Maracas Valley*, one adult female. All are in the American Museum of Natural History.

REMARKS: The original record of *A. centurio* for Trinidad was based on a very young individual with a crushed skull that was taken on a marine oil-drilling barge operating in the Gulf of Paria. The two adult female specimens listed above are therefore of interest.

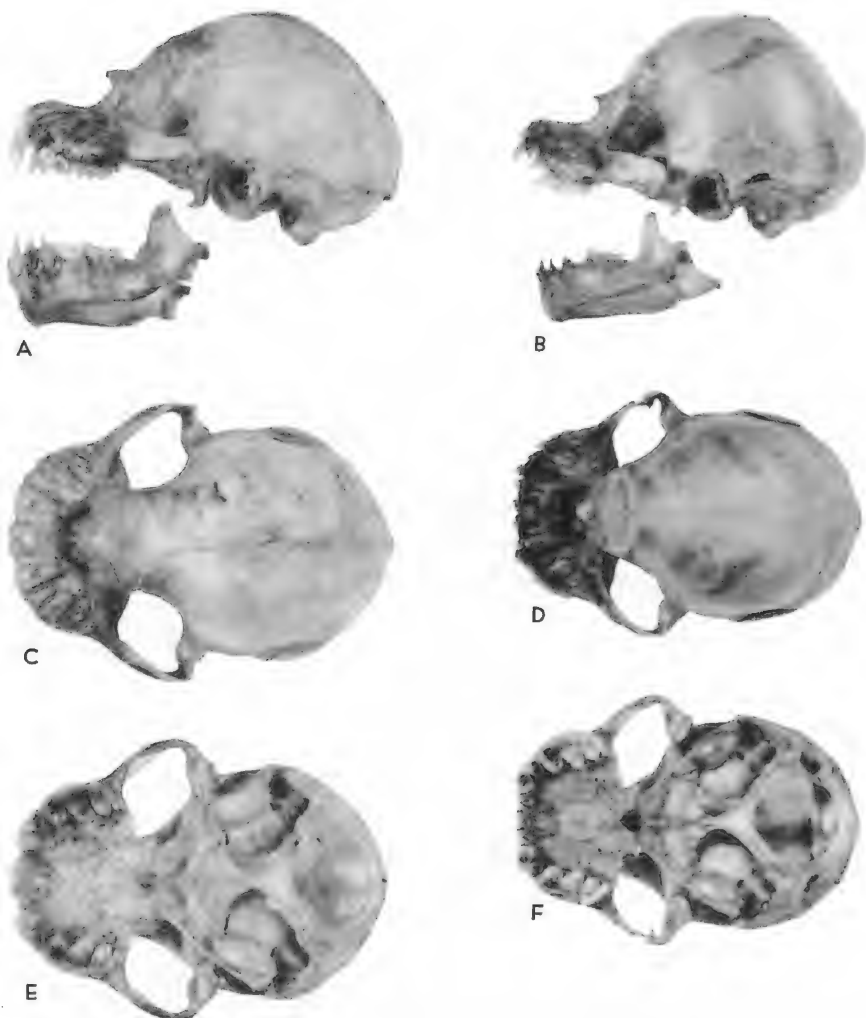


FIG. 7. Crania of *Ametrida centurio*, adult female, A.M.N.H. No. 187225, and of *A. minor*, subadult male, A.M.N.H. No. 187224. A, B. Lateral views. A. *A. centurio*. B. *A. minor*. C, D. Dorsal views. C. *A. centurio*. D. *A. minor*. E, F. Ventral views. E. *A. centurio*. F. *A. minor*. All  $\times 2$ .

*Ametrida minor* H. Allen

Figure 7B, D, F

*Ametrida minor* H. ALLEN, 1894, p. 240.

This species of bat has not previously been known to occur on Trinidad.



TYPE LOCALITY: Surinam, probably Paramaribo according to G. M. Allen (1902, p. 88).

RANGE: The Guianas, Trinidad, Venezuela, and northern Brazil.

GENERAL CHARACTERS: Length of forearm, 24.8 to 25.7; closely resembling *Ametrida centurio* in external and cranial details but smaller in all dimensions.

DESCRIPTION: Color of single specimen, a juvenile: upper parts Snuff Brown, fur Hair Brown at base, followed by a broad band of Pale Pinkish Buff and tipped with Snuff Brown; under parts paler than back, fur unicolorous to base; a prominent white spot on shoulders at origin of antebrachial membrane; membrane between second and third metacarpals transparent, yellowish brown; lips margined with small, rounded, wart-like outgrowths, a V-shaped group of warts on lower lip surrounding a small central wart; no external tail; interfemoral membrane narrow, V-shaped, and hairy; nose leaf short, broad, and rising to a point at tip. Skull short and broad; rostrum greatly foreshortened; braincase highly domed and rising abruptly above rostrum; inner upper incisors conical and about one-third as long as canines; outer upper incisors minute; lower incisors small, subequal, with a distinct median notch on cutting edge of each; a minute third molar present on each side of upper and lower jaws.

SPECIMENS EXAMINED: *Las Cuevas*, one (A.M.N.H.).

REMARKS: This specimen was caught in a mist net in a small savanna surrounded by coconut palm trees and close to bamboo groves and montane rain forest.

*Furipterus horrens* (F. Cuvier)

*Furia horrens* F. CUVIER, 1828, p. 150.

SPECIMENS EXAMINED: *Nariva Swamp*, one (T.R.V.L.); Princes Town, one (A.M.N.H.).

REMARKS: The specimen from Nariva Swamp is the first specimen of *Furipterus horrens* recorded from Trinidad since F. M. Chapman collected one at Princes Town in 1893. The specimen from Nariva Swamp was taken in a mist net in the Bush Bush Forest.

*Thyroptera tricolor tricolor* Spix

*Thyroptera tricolor* SPIX, 1823, p. 61.

SPECIMENS EXAMINED: *Bush Bush Forest*, two; Heights of Aripo, one; Port-of-Spain, one; Sangre Grande, one. All are in the American Museum of Natural History.



FIG. 8., Dorsal views of cranium. A. *Molossus sinaloae*, adult female, A.M.N.H. No. 24524, type. B. *M. macdougalli*, adult female, A.M.N.H. No. 145150, type. C. *M. trinitatus*, adult male, A.M.N.H. No. 179987, type. All  $\times 4$ .

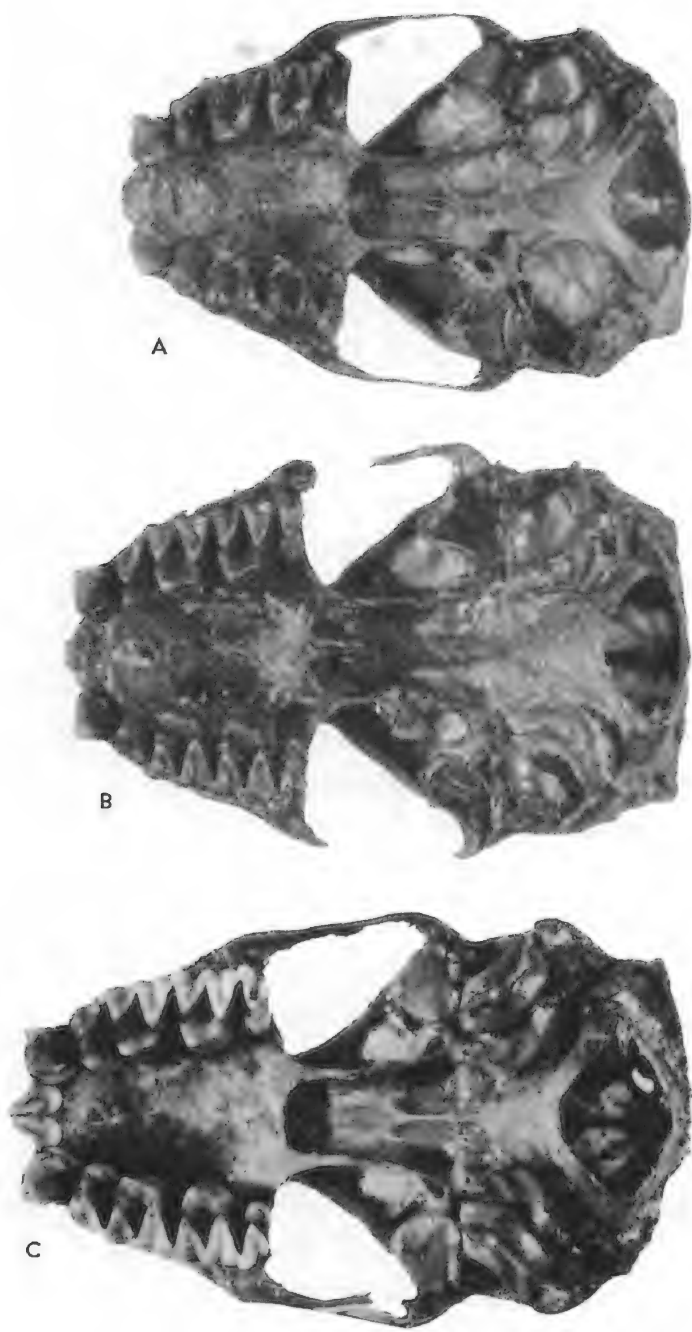


FIG. 9. Ventral views of cranium. A. *Molossus sinaloae*, adult female, A.M.N.H. No. 24524, type. B. *M. macdougalli*, adult female, A.M.N.H. No. 145150, type. C. *M. trinitatus*, adult male, A.M.N.H. No. 179987, type. All  $\times 4$ .

REMARKS: Two of the five specimens are reddish brown on the upper parts, and three are blackish brown. In all five the under parts are extensively white; in one specimen the white of the under parts terminates on the throat, but on the other specimens the white extends forward to the chin but not onto the cheeks.

*Molossus trinitatus* Goodwin

Figures 8C, 9C

*Molossus trinitatus* GOODWIN, 1959, p. 1.

SPECIMENS EXAMINED: *Chaguanas*, one (A.M.N.H.); Port-of-Spain, three (A.M.N.H.); San Fernando, one (A.M.N.H.); *Tunapuna*, one (T.R.V.L.).

REMARKS: In external characters *Molossus trinitatus* is not unlike *Molossus sinaloae* J. A. Allen from Sinaloa, Mexico, especially in its relatively long and sharply bicolored pelage. The skull of *M. trinitatus* (figs. 8C, 9C) can always be distinguished from that of *M. sinaloae* (figs. 8A, 9A) by its larger size, relatively longer rostrum, narrower and higher braincase, and larger molariform teeth. In *M. trinitatus* the anterior border of the interpterygoid fossa does not reach to a line across the posterior border of the posterior upper molars. In *M. sinaloae* the anterior border of the interpterygoid fossa extends forward beyond the line across the posterior border of the posterior upper molars. *Molossus macdougalli* Goodwin from Oaxaca, Mexico, is about the same size as *M. trinitatus*, but it has short, close, unicolored pelage, and the skull of *M. macdougalli* (figs. 8B, 9B) is broader and has more widely spreading arches and a broader and lower braincase than does *M. trinitatus*. The nine specimens of *Molossus* in the Chicago Natural History Museum from near Acapulco, Guerrero, recorded with measurements (De la Torre, 1955, p. 701) as "*M. sinaloae*," have short unicolored pelage and are referable to *M. macdougalli*. The large size of these specimens, recorded as *M. sinaloae*, may account for the supposition by some mammalogists that *M. trinitatus* is a synonym of *M. sinaloae*. Measurements of the three species of *Molossus* are given in table 1.

ALBINISM IN TRINIDAD BATS

A specimen of *Glossophaga s. soricina* (A.M.N.H. No. 207064) from Tamana is white, without a trace of color. The fur is white to the roots of the hairs; the ears, flying membranes, nose leaf, tragus, and feet are creamy white; and the eyes are pink. This is the first completely albino

bat received from the island of Trinidad. A partially albino specimen of *Carollia p. perspicillata* (A.M.N.H. No. 176374) from the Heights of Guanapo is extensively white on the under parts and has creamy white wings. The fur on all other parts of the head and body is of normal coloration. A specimen of *Molossus m. major* (A.M.N.H. No. 176625) from Port-of-Spain has the flying membranes ornately streaked with white and mottled with pale gray. The head and body fur are of normal coloration. A partially albino specimen of *Phyllostomus d. discolor* with white markings similar to the *Carollia* (A.M.N.H. 176374) was seen by the junior author in Trinidad. A completely albino specimen of *Desmodus r. rotundus* was captured in Trinidad between 1930 and 1940 and kept alive for some time. Photographs of this vampire bat were taken by Ray Johnson (1937, p. 94) at Port-of-Spain, Trinidad.

#### LIST OF SOME PARASITES AND THEIR BAT HOSTS IN TRINIDAD

The following list is taken from some recent descriptions of listrophorid mites by Pinichpongse (1963, pp. 81, 273, 398, 400, 403, 621):

PARASITES	HOSTS
<i>Alabidocarpus furmani</i>	<i>Anoura g. geoffroyi</i>
<i>Eulabidocarpus flexipes</i>	<i>Molossus m. major</i>
<i>Eulabidocarpus rectipes</i>	<i>Molossus a. ater</i>
<i>Olabidocarpus aitkeni</i>	<i>Molossus m. major</i>
<i>Paralabidocarpus artibeus</i>	<i>Artibeus l. palmarum</i>

#### GAZETTEER OF SOME LOCALITIES AND COLLECTING STATIONS ON TRINIDAD

Balandra: District in Matura Ward, St. David County, directly inland from Balandra Bay, 14 to 17 miles northeast of Sangre Grande on Toco Main Road, elevation, sea level to 300 feet.

Balandra Bay: On the east coast, latitude 10° 42' N., longitude 61° 00' W.

Blanchisseuse: Village in Blanchisseuse Ward, St. George County, 25 miles north of Arima and terminus of Arima-Blanchisseuse Road, elevation, sea level to 300 feet.

Bush Bush Forest: A forest island in Nariva Swamp, Cocal Ward, Nariva County, about 1 mile to 2 miles west of 46-mile post on Manzanilla-Mayaro Road, elevation, 25 feet.

Fillette: Village in Blanchisseuse Ward, St. George County, 4 to 5 miles west of Blanchisseuse on Paria Main Road, elevation, sea level to 200 feet.

Grande Riviere: Village in Toco Ward, St. David County, 11 miles west of Toco-Matlot Road, elevation, 200 feet.

Matelot: Village in Toco Ward, St. David County, 6 miles west of Grande Riviere on Toco-Matelot Road, elevation, sea level to 500 feet.

Nariva Swamp: On the east coast, extending from Turure Ward, St. Andrew County through Cocal Ward, Nariva County, latitude 10° 25' N., longitude 61° 04' W.

Paria Main Road: Blanchisseuse Ward, St. George County, leading westward from Blanchisseuse to Fillette.

Talparo: Village in San Raphael Ward, St. George County, 4 miles south of Brazil Arena on Talparo Road, elevation, 200 feet.

### LITERATURE CITED

ALLEN, GLOVER M.

1902. The type locality of *Ametrida minor* H. Allen. Proc. Biol. Soc. Washington, vol. 15, pp. 88-89.

ALLEN, HARRISON

1894. On a new species of *Ametrida*. Proc. Boston Soc. Nat. Hist., vol. 26, pp. 240-246.

ALLEN, JOEL ASAPH, AND FRANK M. CHAPMAN

1893. On a collection of mammals from the island of Trinidad, with descriptions of new species. Bull. Amer. Mus. Nat. Hist., vol. 5, art. 13, pp. 203-234.

CUVIER, F.

1828. Description d'un nouveau genre de chauve-souris sous le nom de furie. Mem. Mus. d'Hist. Nat., Paris, vol. 16, pp. 149-155, pl. 9.

DE LA TORRE, LUIS

1955. Bats from Guerrero, Jalisco and Oaxaca, Mexico. Fieldiana: Zool., vol. 37, pp. 695-703, fig. 146, pls. 30-31.  
1959. A new species of bat of the genus *Sturnira* (Phyllostomidae) from the island of Trinidad, West Indies. Nat. Hist. Misc., Chicago Acad. Sci., no. 166, pp. 1-6.

DOBSON, GEORGE EDWARD

1878. Catalogue of the Chiroptera in the collection of the British Museum. London, xlii + 567 pp., 30 pls.

GEOFFROY SAINT-HILAIRE, ÉTIENNE

1810. Sur les phyllostomes et les megadermes, deux genres de la famille des chauve-souris. Ann. Mus. d'Hist. Nat., Paris, vol. 15, pp. 157-198, pls. 9-12.

GOODWIN, GEORGE G.

1942. A summary of recognizable species of *Tonatia*, with descriptions of two new species. Jour. Mammal., vol. 23, no. 2, pp. 204-209.  
1958. Three new bats from Trinidad. Amer. Mus. Novitates, no. 1877, pp. 1-6.  
1959. Descriptions of some new mammals. *Ibid.*, no. 1967, pp. 1-8.

GOODWIN, GEORGE G., AND ARTHUR M. GREENHALL

1962. Two new bats from Trinidad, with comments on the status of the genus *Mesophylla*. Amer. Mus. Novitates, no. 2080, pp. 1-18.

GRAY, JOHN EDWARD

1847. Characters of six new genera of bats not hitherto distinguished. Proc. Zool. Soc. London, pp. 14-16.

1866. Revision of the genera of Phyllostomidae, or leaf-nosed bats. *Ibid.*, pp. 111–118.
- JOHNSON, RAY
1937. This tiny bat is cause of vampire legends. *Life*, vol. 3, no. 19, p. 94.
- PETERS, W.
1865. Über die zu den Vampyri gehörigen Flederthiere und über die natürliche Stellung der Gattung *Antrozous*. *Monatsber. Preussischen Akad. Wiss. Berlin*, pp. 503–524.
1866. Fernere Mitteilungen zur Kenntniss der Flederthiere, namentlich über Arten des Leidener und Britischen Museums. *Ibid.*, pp. 672–681.
- PINICHPONGSE, SURIN
1963. A review of the Chirodiscinae with descriptions of new taxa (Acarina: Listrophoridae). *Acarologia*, vol. 5, pt. 1, pp. 81–91; pt. 2, pp. 266–278; pt. 3, pp. 397–404; pt. 4, pp. 620–627.
- RIDGWAY, ROBERT
1912. Color standards and color nomenclature. Washington, D. C., pp. 1–43, pls. 1–53.
- SPIX, JEAN DE
1823. *Simiarum et vespertilionum brasiliensum*. Munich, 72 pp., 38 tables.
- THOMAS, OLDFIELD
1896. On new small mammals from the neotropical region. *Ann. Mag. Nat. Hist.*, Ser. 6, vol. 18, pp. 301–314.

